

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the above amendments and following remarks, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-17 and 19-40 are pending in this application. Claims 5-6 and 25-26 have been withdrawn from consideration and claim 18 has been canceled. In this Amendment, claims 1, 13, 24 and 33 have been amended. No new subject matter has been added as a result of the amendments to the claims.

It is submitted that these claims are patentably distinct from the prior art cited by the Examiner, and that these claims are in full compliance with the requirements of 35 U.S.C. §112. The remarks made herein are not made for the purpose of patentability within the meaning of 35 U.S.C. §§ 101, 102, 103 or 112, but rather the amendments and remarks made herein are simply for clarification and to round out the scope of protection to which Applicants are entitled.

II. THE REJECTIONS UNDER 35 U.S.C. § 102(b) 35 U.S.C. § 103(a)

In numbered paragraph 5 of the Office Action, claims 1-4, 7-8, 11-16, 19-22, 24, 27-28, 31-36 and 39-40 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by or, in the alternative under 35 U.S.C. § 103(a) as allegedly obvious over U.S. Patent No. 6,432,850 to Takagi et al. ("Takagi"). In numbered paragraph 6 of the Office Action, claims 9-10, 23, 29-30, and 38 have been rejected § 103(a) as allegedly being unpatentable over Takagi in view of U.S. Patent No. 4,803,096 to Kuhn et al. ("Kuhn"). In addition, in paragraph 7 of the Office Action, claims 17 and 37 have been rejected under § 103(a) as allegedly being unpatentable over Takagi.

Furthermore, in paragraph 8 of the Office Action, claims 1-4, 7-8, 11-17, 19-22, 24, 27-28, 31-37 and 39-40 have been rejected under §103(a) as allegedly being unpatentable over Takagi in view of U.S. Patent No. 6,093,491 to Dugan et al. ("Dugan"). Lastly, in paragraph 9 of the Office Action, claims 9-10, 23, 29-30 and 38 have been rejected under § 103(a) as allegedly being unpatentable over Takagi in view of Dugan, and further in view of Kuhn. The rejections are traversed for at least the following reasons.

As recited in amended claim 1, the instant application is directed to:

[a] conductive industrial fabric comprising a plurality of polymeric filaments having one or more C-shaped grooves with a mouth having a width less than the width of a central portion of the groove formed therein, wherein each filament includes electrically conductive polymer material incorporated as either a blend or a coating that substantially fills the C-shaped grooves, said conductive fabric having static dissipation properties comparable to metal-based fabrics whilst being resistant to dents and creases.

(Emphasis added). Takagi, taken either alone or in combination with Dugan and/or Kuhn, fails to teach, disclose or motivate a skilled artisan to practice a filament having "C-shaped grooves with a mouth having a width less than the width of a central portion of the groove" wherein an electrically conductive polymer "substantially fills the C-shaped grooves."

The attached figure, which is an annotated version of FIG. 1 from the instant application, depicts a filament constructed in accordance with the instant invention. For illustration purposes, the electrically conductive polymer material 14 has been removed from one of the C-shaped grooves 18. As shown, the mouth of the C-shaped groove 18 has a width depicted by double arrow "A" that is less than or narrower than the width of the central portion of the groove 18 as depicted by double arrow "B." Consequently, the electrically conductive polymer material 14 that substantially fills the grooves 18 is mechanically locked into place within the grooves 18. In

further support, page 5, line 25 to page 6, line 15 of the instant application also discusses the relationship between the electrically conductive polymer material 14 and the C-shaped grooves 18. Mechanically locking the electrically conductive polymer material within the C-shaped grooves "reduces the need for adhesion of the polymer 14 to the monofilament 12," which results in a more durable filament and fabric. *See Instant Application*, page 6, lines 6-8. Furthermore, substantially filling the C-shaped grooves and locking the electrically conductive polymer within the C-shaped grooves, "allows continued exposure of the highly conductive polymer 14 to the surface 16 even as the monofilament 12 wears, whilst also shielding and protecting the polymer material 14." *Id.* at page 6, lines 8-12. Therefore, the instant filaments yield a very durable fabric that remains highly conductive even as it wears.

The Office Action asserts that Takagi discloses a conductive fabric comprising a plurality of filaments having one or more C-shaped grooves formed therein. *Office Action*, page 3. Even if Applicants agree with the Action's characterization of the grooves in Takagi being C-shaped (which they do not), the Takagi grooves do not include a mouth having a width that is less than the width of a central portion of the groove. Instead, the grooves in Takagi have a mouth with a width that is greater than the width of the central portion of the groove. As a result, the electrically conductive polymer layer 2 in Takagi, is not mechanically locked into place within the groove, as is the case in the instant invention and as required by revised claims 1 and 24 of the instant application.

On page 8, the Office Action further asserts that in the event it is shown that Takagi does not teach or suggest lobed C-shaped monofilaments, Dugan discloses that it is known in the art to use a lobed C-shaped monofilament to entrap material inside the polymer fiber for increased durability. Applicants respectfully disagree. Dugan is directed to "thermoplastic fibers which

transport or wick moisture away from a moisture producing source." *Dugan*, col. 1, lines 6-7.

As depicted throughout the figures and as taught throughout the specification, the thermoplastic fibers of Dugan always have lengthwise channels that are open. *See id.* at col. 2, lines 3-8. In order to wick perspiration or moisture away from a moisture producing source such as the human body, it is imperative that these "channels remain open to the fibers' environment" (*see id.* at col. 3, lines 5-7) in order "to draw moisture into the channel" (*id.* at col. 3, line 43) and away from the source. Even though a durable hydrophilic surface modification is associated with the channels (*id.* at col. 2, lines 14-15), the polymer coatings only line and do not fill the channels (*id.* at col. 5, lines 29-34). Therefore, in order for the thermoplastic fibers of Dugan to be effective in wicking moisture away from the human body as they were designed to do, the channels must not be filled with a polymer material and must always remain open.

Moreover, when Dugan discusses physically entrapping the hydrophilic material (surface modification) inside the fiber polymer for durability, Dugan is referring to adding a hydrophilic material to the polymer that forms the thermoplastic fiber in its molten state to physically entrap the hydrophilic material inside the fiber polymer. *Id.* at col. 4, lines 45-50. This is not the same as the Action's assertion that the cited section relates to physically entrapping the hydrophilic material within the open channels of the thermoplastic fiber.

In fact, Dugan teaches away from substantially filling the C-shaped grooves with a polymer material that is mechanically locked within the grooves. "It is improper to combine references where the references teach away from their combination." M.P.E.P. § 2146(X)(D)(2) (*citing In re Graselli*, 713 F.2d 731, 743 (Fed. Cir. 1983)). It is well established that if a reference teaches away from an invention, that finding can defeat an obviousness claim grounded on that reference. *See Winner Int'l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 (Fed. Cir.

2000). In addition, a "reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *Id.* at 1350 (*quoting In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)).

The instant case presents a textbook example of a reference teaching away from the result sought by Applicants. As is apparent from the above analysis, the skilled artisan, confronted with the problem faced by the Applicants, namely, the need for an improved highly conductive fabric that mechanically locks an electrically conductive polymer material within the grooves in the filaments that comprise the conductive fabric in order to improve the fabric's durability and conductivity and that allows continued exposure of the highly conductive polymer material to the surface of the monofilament even as the monofilament wears, would clearly have been led away from the approach taken by Applicants after having read the Dugan reference.

Claim 1 of the instant application requires, *inter alia*, that the electrically conductive polymer material "substantially fills the C-shaped grooves." As previously discussed, Dugan continually teaches that the channels of the thermoplastic fiber are "lengthwise open channels," (*Dugan*, col. 2, lines 6-7), and that the channels may be any shape "so long as the channels remain open to the fibers' environment," (*id.* at col. 3, lines 6-7) and that the polymeric coatings "line each open channel," (*id.* at col. 5, lines 32-34). (Emphasis added). Thus Dugan specifically—and repeatedly—teaches that the channels must remain open and therefore teaches away from the use of, or making of, polymeric filaments having substantially filled grooves or channels. Accordingly, one of skill in the art, after reviewing the Dugan reference would not consider it desirable to manufacture a highly conductive fabric comprised of filaments having substantially filled grooves, and in addition, would not have been motivated to combine the teachings of Dugan with the conductive article described by Takagi.

Applicants also respectfully remind the Examiner that in order to ground an obviousness rejection, there must be some teaching which would have provided the necessary incentive or motivation for modifying the reference's teaching. *In re Laskowski*, 12 U.S.P.Q. 2d 1397, 1399 (Fed. Cir. 1989); *In re Obukowitz*, 27 U.S.P.Q. 2d 1063 (B.P.A.I. 1993). Further, "obvious to try" is not the standard under 35 U.S.C. §103. *In re Fine*, 5 U.S.P.Q. 2d 1596, 1599 (Fed. Cir. 1988). And, as stated by the Court in *In re Fritch*, 23 U.S.P.Q. 2d 1780, 1783-84 (Fed. Cir. 1992), "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification." Also, the Examiner is respectfully reminded that for the § 103 rejection to be proper, both the suggestion of the claimed invention and the expectation of success must be founded in the prior art, and not Applicants' disclosure. *In re Dow*, 5 U.S.P.Q. 2d 1529, 1531 (Fed. Cir. 1988).

Applying the law to the instant facts, Applicants urge that since Takagi and Dugan both fail either alone or in combination to teach, suggest or motivate a skilled artisan to practice the instantly claimed invention, the § 103 rejections must fail. Further, "obvious to try" is not the standard upon which an obviousness rejection should be based. As "obvious to try" would be the only basis by which the obviousness rejection could stand and since there is no motivation found in the cited references to combine or modify the cited references in the manner suggested by the Examiner, it is respectfully submitted that the § 103 rejections must fail for this reason as well.

For at least the foregoing reasons, Applicants respectfully submit that revised independent claims 1 and 24 patentably distinguish over Takagi either alone or in combination with Dugan and Kuhn, since the relied upon portions of the cited references fail to teach each and every limitation of claims 1 and 24 or motivate a person skilled in the art to modify or

combine the references to practice the claimed invention. Therefore, claims 1 and 24 are allowable. Further, claims 2-4, 7-17, 19-23 and 39, which depend from claim 1, and claims 27-38 and 40, which depend from claim 24, are allowable therewith.

Statements appearing above with respect to the disclosures in the cited references represent the present opinions of the Applicants' undersigned attorney and, in the event that the Examiner disagrees with any such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the respective reference providing the basis for a contrary view.

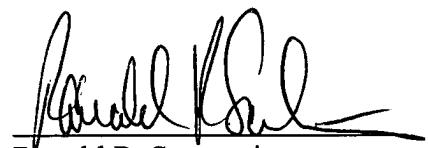
CONCLUSION

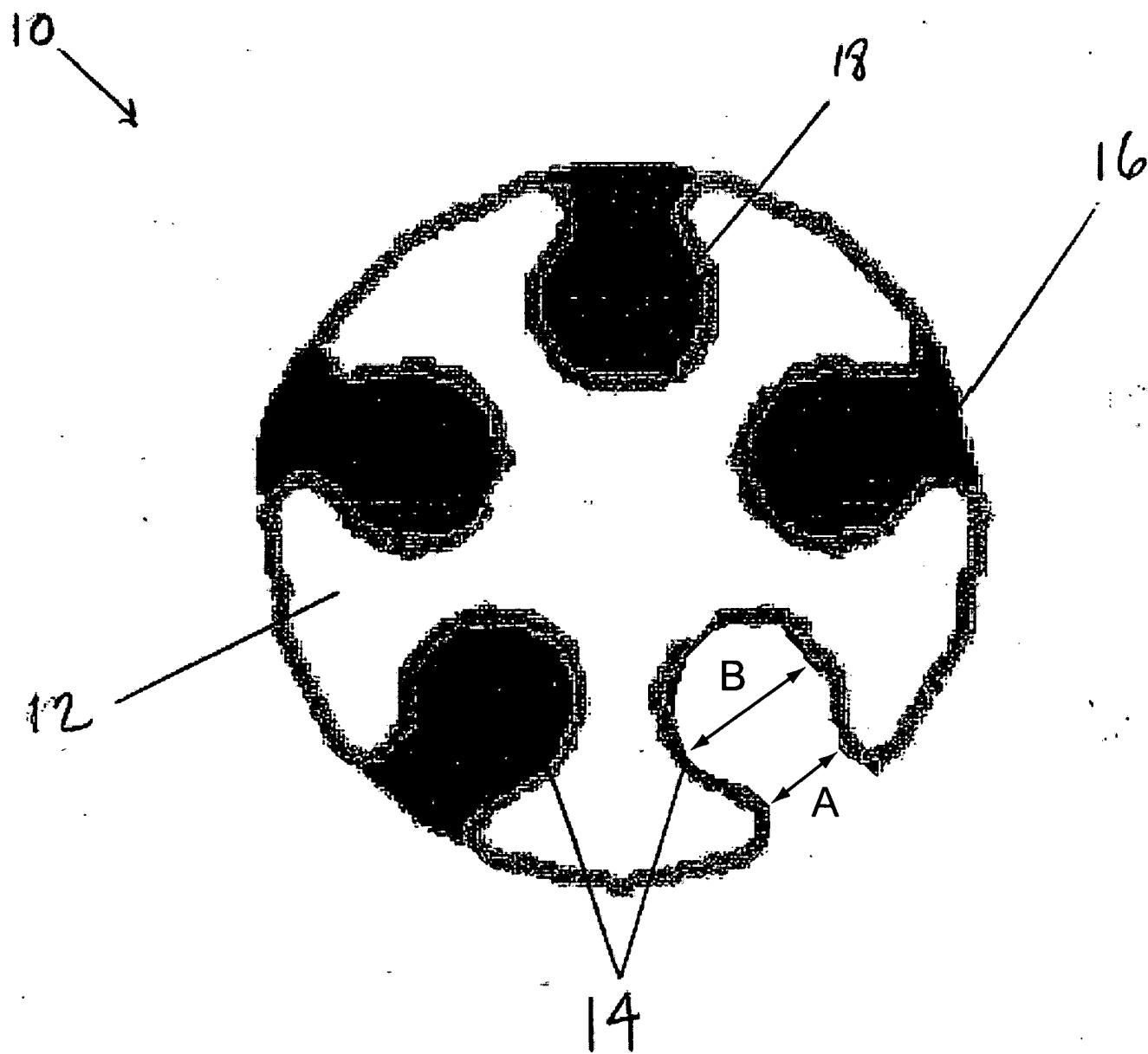
In view of the foregoing, Applicants believe that all of the claims in this application are patentable over the prior art, and an early and favorable consideration thereof is solicited.

Please charge any fees incurred by reason of this response and not paid herewith to Deposit Account No. 50-0320.

Respectfully submitted,
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